8

INDIAN NOTES AND MONOGRAPHS

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A SERIES OF PUBLICATIONS RELATING TO THE AMERICAN ABORIGINES

NATIVE COPPER OBJECTS OF THE COPPER ESKIMO

BY

DONALD A. CADZOW

NEW YORK

MUSEUM OF THE AMERICAN INDIAN

HEYE FOUNDATION

1920

Publications of the Museum of the American Indian, Heye Foundation

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THIS series of INDIAN NOTES AND MONOGRAPHS is devoted primarily to the publication of the results of studies by members of the staff of the Museum of the American Indian, Heye Foundation, and is uniform with HISPANIC NOTES AND MONOGRAPHS, published by the Hispanic Society of America, with which organization this Museum is in cordial coöperation.

NATIVE COPPER OBJECTS OF THE COPPER ESKIMO

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DONALD A. CADZOW

NATIVE COPPER OBJECTS OF THE COPPER ESKIMO

By Donald A. Cadzow

DEPOSITS of copper in the Coronation gulf district of northwestern Canada were first reported in 1766, when Moses Horton, the Hudson's Bay Company's governor at Fort Prince of Wales on Hudson bay, obtained specimens of this metal from Indians living on the northwest coast of the bay, who had received it from natives farther west, together with the information that there were deposits on a large river in their country. Horton, hoping that the metal could be commercialized, commissioned Samuel Hearne, a young Englishman, to explore the district in which the copper had been discovered, for the purpose of determining whether the locality could be reached by ships from

Hudson bay, and if the copper existed in sufficient quantities to pay the company to mine and to ship it to England.[1]

After two unsuccessful attempts, Hearne finally, with much difficulty and almost endless hardship, reached the shore of the river where the deposits were reported. Although he was not a geologist, he verified the statements of the Indians, but proved that the district where the copper occurred was too remote and difficult of access to permit profitable mining, even if ore should be found in abundance. Hearne surveyed the river and named it the Coppermine. While thus employed, the northern Indians who had accompanied him discovered and massacred a small party of Eskimo camped on the shore of the stream. These natives were undoubtedly the forefathers of the people who are now called the Copper Eskimo, or Kidnelik (Qidneliq). Hearne reported that native copper was used extensively by them in making utensils and weapons, and brought back a few specimens of their handiwork to Fort Prince of Wales,

whence they were shipped to England and all trace of them lost.

Since the time of Samuel Hearne, Coppermine river has been visited by several explorers, and the district, then sparsely occupied by northern Athabascan Indians, was later taken over by the Eskimo, who hunt far inland during the summer for caribou and return to the coast for seal in winter. They no longer fear their hereditary enemies, the Indians, who, on the advent of white traders, moved from the barrens to the timber-land, where the climate is less severe and trading stores more accessible.

It was the good fortune of the writer, while conducting an expedition into the Mackenzie river district of northwestern Canada in the summer of 1919, in the interest of the Museum of the American Indian, Heye Foundation, to meet a small party of Copper Eskimo. These people were many miles from their usual summer hunting-ground, and in the center of what a few years before had been hostile territory. But through the influence of Messrs DeArcy

Arden and A. A. Carroll, prospectors and traders, who have spent several years in their country, these Eskimo were persuaded to come to Fort Norman on Mackenzie river, protection from the Indians being assured them by the white men. It was when this party was at Fort Norman that the writer met them and collected ethnological specimens, among which are numerous pieces of worked native copper, a few examples of which are described in these pages.

Mr Arden and Mr Carroll kindly offered their services as interpreters, and through them the following information was gathered. One of the men, Katiuck by name, said he was a Pallirmiut, and that he made his home near the mouth of Coppermine river in winter and hunted inland toward Bear lake in summer. He stated that the native copper used in making utensils and weapons was usually picked up in the form of float, both on the western side of Victoria island and along Coppermine river. He also described the primitive native method of copper-working. Following is a description

of the more noteworthy objects gathered during the trip.

Gaff-hook.—The manufacture and use of the copper-pronged gaff-hook represented in pl. 1 was described as follows: First, a rough prong is hammered out of a small mass of float copper (*a*) with a beach pebble held in the hand. Next it is smoothed and finished by rubbing against a large bowlder. A piece of caribou antler is shaped into a head (*b*), holes are cut through it, and each prong is attached by passing one end through a hole and hammering it to a flat rivet-head. The prongs are then securely wedged in place with small pieces of copper. The hooks are not of uniform size, but vary according to the fancy of the maker or to the material at hand. Copper rivets are sometimes used to strengthen the hooks by driving them through the head and flattening the ends. The head is beveled where it is fastened to the wooden shaft, and is held in place with copper pegs, the junction being securely wrapped with strips of raw sealskin. The shaft, which is from 15 ft. to 20 ft. in length and about 1½ in. in diameter, is

preferably made of dry and seasoned spruce. Owing to the difficulty in securing material for the shaft, three or four pieces of wood are often spliced together to attain the desired length.

The gaff-hook is used generally for catching the so-called trout in the streams flowing into the Arctic. These fish, which in reality are a species of salmon, weighing from three to ten pounds, enter fresh water only during the spawning season. In using the gaff the fisherman finds a shallow place in a stream where the trout are running. Standing in a cleared space, usually a gravel bar, he cautiously slips the hook into the water, prongs upward, and allows the pole to float with the current until the hook is directly behind a fish, then with a quick jerk he transfixes it, and, running up the bank, drags it out of the water. With a forward thrust he loosens his catch, kills it with a club, and is ready for another. The fishermen of the tribe are usually accompanied by the women, who cut the fish in strips, dry them on low racks on the spot, and store them in caches for winter use.

Length of head, $10\frac{1}{2}$ in.
Length of forward prong, $9\frac{1}{2}$ in.
Length of rear prong, $7\frac{1}{2}$ in.

Spear-hook.—Fish are frequently taken with a three-pronged spear-hook (pl. II), used in much the same manner as the gaff, except that the fish is transfixed on the spear with a forward thrust on the shaft. The outer prongs of the spear are made of wood, to which tips of antler are lashed, with inward- and backward-pointing barbs of native copper driven through them. The outer prongs spread apart on striking the fish, and the barbs come together in its sides or meet beneath the belly, thus holding the fish securely to the center prong, which is made of copper or of antler.

This spear is used when the fisherman wishes to be certain of his catch, for, in using the spear-hook he is assured that the fish will not escape when once transfixed, as often happens when striking a lively fish with the gaff.

(*a*) Length of outer prongs, 14 in.
Barbs, 2 in.
Length of center prong, 6 in.

(*b*) Length of outer prongs, 12 in.
Barbs, 3 in.
Length of center prong, 4 in.

Fish-hook.—Pl. III represents another type of fishing-tackle used by the Copper Eskimo for fishing through the ice in winter. A piece of dried fish is tied to the copper hook for bait, and the fisherman bobs it up and down in the water to attract the fish. The proximal end of the copper hook is beaten out flat to facilitate the attachment of the line, which is spliced around the shank and stitched in place with a small piece of sinew. The line is made of four strands of sinew, braided and spliced, and is kept well-greased with seal-oil to make it more pliable and to prevent freezing while out of the water.

Length of hook, $2\frac{1}{2}$ in.
Length from point to shaft, $1\frac{1}{4}$ in.

Ice Chisels.—Pl. IV illustrates a copper-bladed ice chisel used to chop holes in the ice for fishing, or for enlarging seal-holes. The chisel is mounted on a heavy wooden shaft, about 6 ft. long and beveled at the

end. It is attached by placing the beveled end of the antler head on the beveled end of the shaft and pegging them together, the junction being wrapped with a sealskin thong.

The blade here shown is attached to the antler head by being driven into the pith of the antler when green, and allowed to dry. The shrinking of the antler grips the blade, which is serrated on the edges that enter the head.

Length of blade, 6 in.
Length of head, 5½ in.

Snow Knives.—Pl. v represents three double-edged, paddle-shaped knives, with copper blades. This type of knife is used in making snow houses, and is indispensable in winter. It is carried at all times by the men in a sheath attached to the bow-case, on the sled or in the hand, for they do not know at what moment they may be obliged to build a snow-house for protection from a severe Arctic storm.

The copper blade shown in *a* is mounted in a wooden handle, and held in place with

strands of sinew passed around a groove in the handle and tied. The blade represented in *b* is mounted in an antler handle which has a crescentic guard riveted to the near end for the purpose of preventing the handle from slipping while the knife is in use. The handle is wrapped with a strip of split willow to strengthen it and to enable the user to obtain a firm grip with his mittened hand. The blade shown in *c* is mounted in an antler handle composed of two pieces beveled and fastened together with three copper rivets, one of them passing through the blade to hold it in place on the handle, around which sealskin thongs are wrapped.

(*a*) Length of blade, $11\frac{1}{2}$ in.
Width at center, $2\frac{1}{2}$ in.
Length of handle, $2\frac{1}{2}$ in.

(*b*) Length of blade, 8 in.
Width at center, $\frac{7}{8}$ in.
Length of handle, including guard, $7\frac{1}{4}$ in.

(*c*) Length of blade, $4\frac{1}{2}$ in.
Width at center, $2\frac{1}{2}$ in.
Length of handle, $9\frac{1}{2}$ in.

Ulus, or Women's Knives.—The copper-bladed *ulu* is essentially a woman's knife,

used in cutting skin for clothing. The hide is placed on a board, an incision is made with one end of the blade, and the skin cut with a forward motion of the wrist. The *ulu* is also used for carving and chopping meat and fish. The fan-shaped blade and shank represented in pl. VI, *a*, is made of a solid piece of flattened copper, the shank passing through the wooden grip and held in place with a copper wedge. In *b* is shown a blade attached to the antler shank with copper rivets. The shank passes through the antler grip, where it is held in place with a copper wedge. If the blade is made of a separate piece of metal, the shank to which it is attached is made flat in order that it will not interfere with the depth of the cut into food.

(*a*) Length from grip to cutting edge, $4\frac{1}{2}$ in. Cutting edge, $4\frac{1}{2}$ in.

(*b*) Length from handle to cutting edge, 3 in. Cutting edge, $3\frac{1}{2}$ in.

Pl. VII shows Natine, the wife of Katiuck, cutting a pair of sealskin boots with an *ulu*.

Adze.—The copper-bladed adze used by

the Copper Eskimo is primarily a wood-working tool. Snow-shovels, lamp-boards, dishes, bows, and other articles are roughly blocked out with it, then finished with a crooked knife. Frozen meat and fish are also chopped with this useful implement. The blade of the adze illustrated in pl. VIII is secured to the curved antler handle with thongs of sealskin passed around it and through a hole in the helve, holding the flat face of the blade against the end of the handle.

Length of blade, 7 in.
Width at cutting edge, 2½ in., tapering to 1 in. at the opposite end.
Length of handle, 13 in.

Sealing Equipment.—In Coronation gulf the seal is the main source of the winter food supply, and therefore the sealing harpoon (pl. IX, *d*) is an essential part of the equipment of every hunter among the Copper Eskimo. There are two methods of locating a seal's breathing-hole in the ice: In the first, dogs are trained for the purpose, and the seal-hole finder (fig. 1) is used; this is held in the hand like a walking-stick

and poked through the snow until a breathing-hole is found, when the hunter places the slender bone seal-indicator (pl. IX, *a*) in the opening, one end just below the surface of the water, while the other is fastened to the edge of the hole with a pointed bone peg (*b*), attached to a sinew cord that extends from the end of the indicator to the center of the peg. The hunter sits beside the hole with his harpoon poised ready to strike, the shaft being held in the right hand and the retrieving-line in the left. When the indicator moves upward, the animal is nearing the surface of the water, and the hunter quickly drives the harpoon toggle-head into the seal, at the same time throwing the shaft over his shoulder and grasping the line firmly with both hands. When the seal stops struggling, the hole is rimmed with a bone pick on the proximal end of the

FIG. 1.—Seal hole finder. (38⅞ in.)

harpoon shaft, or with a muskox-horn spoon (*c*). The seal is then dragged to the ice and killed by pushing the pointed handle of the spoon into its eye. Then the wound is skewered with a bone peg to prevent loss of the blood, which is used in making soup.

The stem of the toggle-head shown in pl. IX, *d*, is made of caribou-antler, and has a line-hole bored through it from the side, halfway between the butt and the tip of the blade. The blade is a flattened triangular piece of copper, fastened in a slit cut in the distal end of the stem with a copper rivet, on a plane with the pointed butt. The function of the toggle-head is to turn at a right angle to the retrieving-line in the flesh of the seal when it parts from the foreshaft, the butt and point preventing the toggle-head from slipping from the flesh. The foreshaft is a squared strip of copper, the pointed tip of which fits into the shallow socket of the toggle-head, the proximal end being placed in a deep socket on the tip of the head. The head is made of caribou-antler, hollowed at the near end. The wooden shaft is placed in the hollowed

end and held with three copper rivets passed through the head and shaft.

Length of head, 8 in.
Length of foreshaft, 5 in.
Length of toggle-head, 4 in.
Width of toggle-head blade, $1\frac{1}{4}$ in.

Arrowheads.—The Copper Eskimo use three varieties of arrowheads—copper, bone, and antler. Those of copper, made either of a single piece of metal or having an antler foreshaft tipped with a copper point, are the more popular and practical. They are "rankling" heads, and used for killing big game. The pointed dowel inserted into the shaft of the arrow is made smaller than the socket, so that, when the animal is struck, the head will easily slip out of the socket and remain in the victim's flesh, where with every movement it works farther toward the vitals. The bone- or antler-pointed heads are usually of the same type (pl. x, *f*), and are employed at close quarters for dispatching wounded game, the heavy, sharp-edged, broad blade tearing a large wound in the victim, killing it quickly.

Pl. x, *a*, *b*, represent single- and double-

barbed, copper-tipped, rankling heads. The pointed proximal end of each of the round antler foreshafts is inserted in a socket in the end of the wooden shaft, and held in place with a seizing of sinew. The barbs on the foreshaft are designed to prevent the head from slipping from the flesh of the game. The triangular barbed copper tip is fastened to the foreshaft by inserting it in a narrow slot, where it is held in place with a copper rivet.

Pl. x, *c*, illustrates a copper rankling head made from a single strip of copper, flattened at the end into a triangular point. It is secured to the shaft in the same manner as the heads shown in *a* and *b* of the same plate.

A double-tipped rankling arrowhead of copper is figured in *d*. The two tips of this head, although on the same axis, are at right angles to each other. The forward tip is the piercing part, while the rear tip prevents the head from falling from the flesh.

A copper-tipped, spade-shaped rankling head is shown in *e*, in which the tip is fast-

ened to the antler foreshaft by being placed in a socket at the distal end and held in place with glue made from seal blood. The foreshaft is attached in the same manner as the shafts in *a* and *b*.

In *f* is represented the single-notch form of bone arrowhead, used at close quarters. This head, when not in use, is kept in a rawhide sheath (*g*) to prevent its sharp edges from being chipped by the copper arrowheads in the quiver.

(*a*) Length of head, $9\frac{3}{4}$ in.
Width of tip at base, 1 in.
(*b*) Length of head, 11 in.
Width of tip at base, $\frac{3}{4}$ in.
(*c*) Length of head, 5 in.
Width of tip at base, 1 in.
(*d*) Length of head, $5\frac{3}{4}$ in.
Width of tips, $\frac{1}{2}$ in.
(*e*) Length of head, $8\frac{1}{4}$ in.
Width of tip at base, $\frac{5}{8}$ in.
(*f*) Length of head, 9 in.
Width of face in center, $\frac{3}{4}$ in.

Repairing with Copper.—Native copper is invaluable to the Eskimo of Coronation gulf for repairing broken household utensils, some of which are very fragile. Steatite

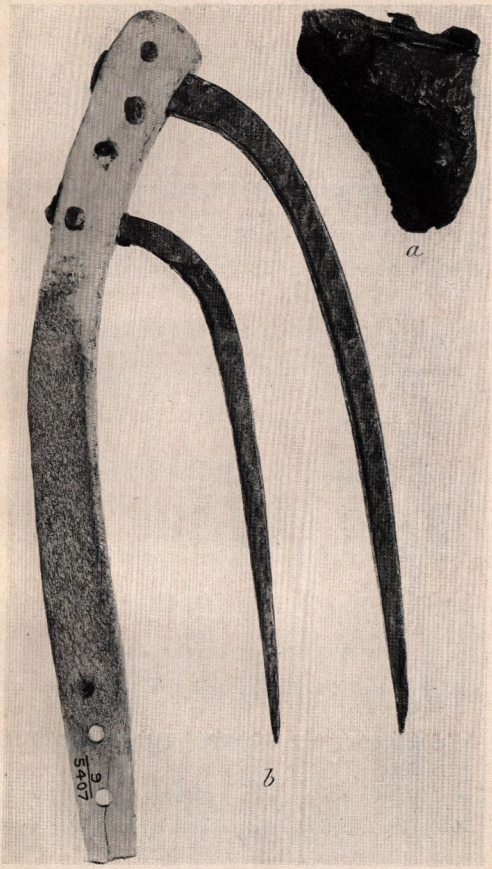
cooking vessels are repaired, when broken, by driving copper staples through the soft stone on each side of the fracture, and clinched on the inside.

A muskox-horn dipper is repaired when worn or broken by placing a piece of horn against the side to be mended and fastening it in place with copper rivets, as shown in pl. XI.

The Copper Eskimo are at present rapidly becoming semi-civilized. The Hudson's Bay Company has opened a trading-post near the mouth of Coppermine river, and the Northern Trading Company operates a trading schooner along the shores of Coronation gulf. Within a few years the utilization of native copper by these Eskimo for making weapons and utensils will have ceased, the white man's handy and practical materials having taken its place.

NOTE

1. See Hearne, Samuel, Journey from Prince of Wales's Fort in Hudson's Bay to the Northern Ocean, London, 1795.

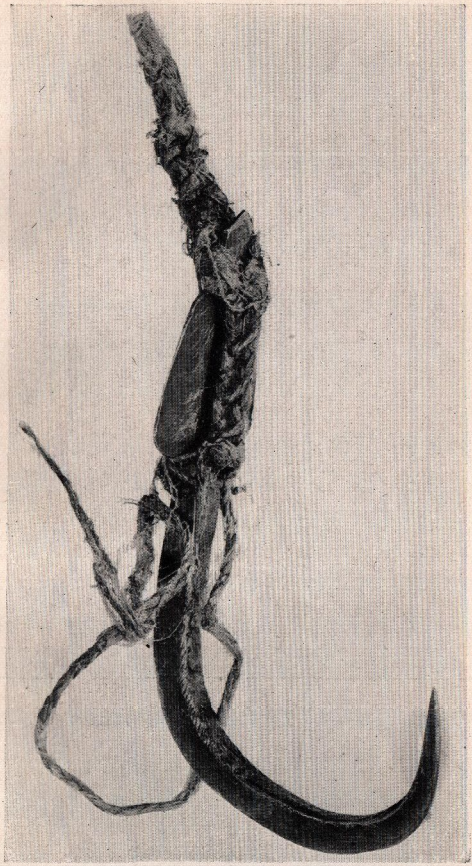


GAFF-HOOK AND FLOAT COPPER

a, Mass of float copper from which a piece has been cut. *b*, Gaff-hook with copper prongs

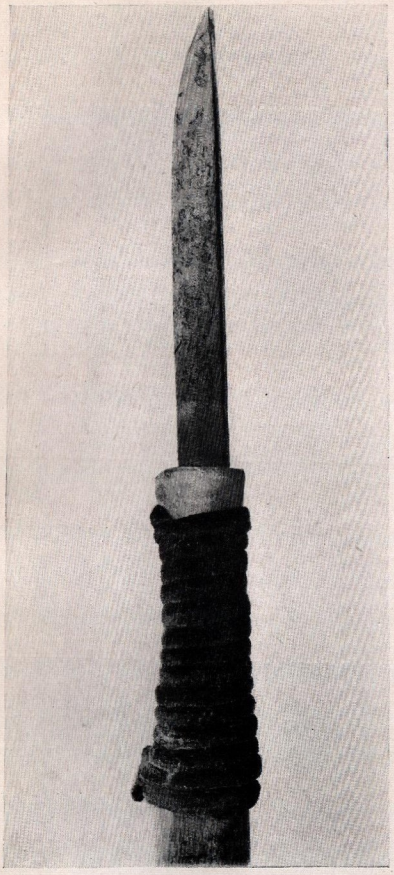
SPEAR-HOOKS

a, Three-pronged spear-hook with copper barbs and center prong. *b*, Spear-hook with copper barbs and center prong of notched antler



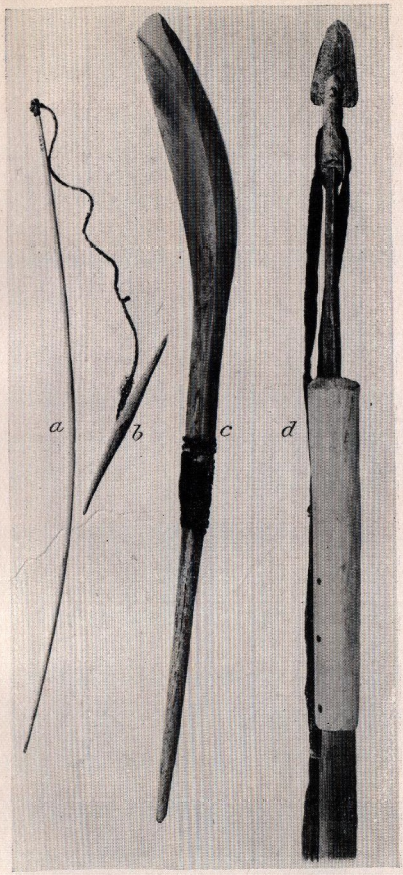
COPPER FISH-HOOK

Showing a portion of the attached sinew line



ICE CHISEL

Showing copper blade and head of caribou antler

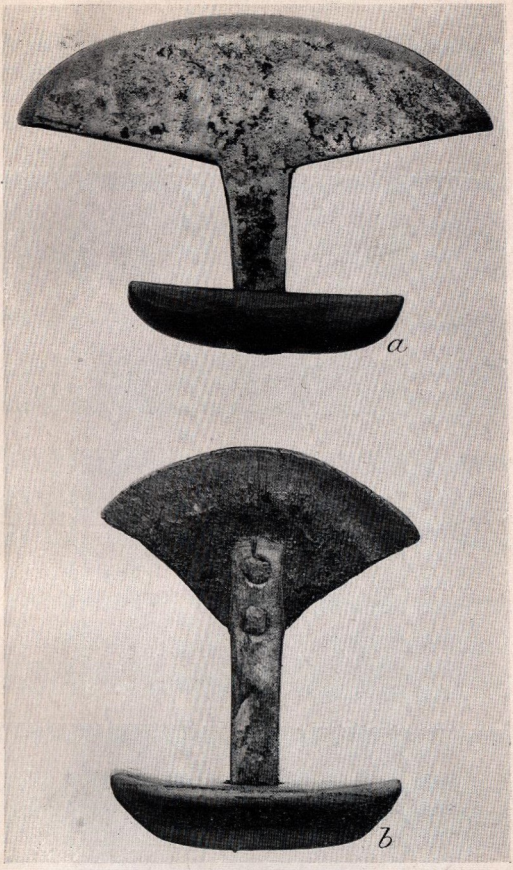


SEALING EQUIPMENT

a, Bone seal indicator. *b*, Peg for fastening the indicator to the edge of the seal hole. *c*, Spoon of muskox-horn for rimming out seal holes and killing seals. *d*, Spear with copper-tipped togglehead, squared copper foreshaft, and with copper rivets for attaching the antler head to the wooden shaft.

SNOW KNIVES WITH COPPER BLADES

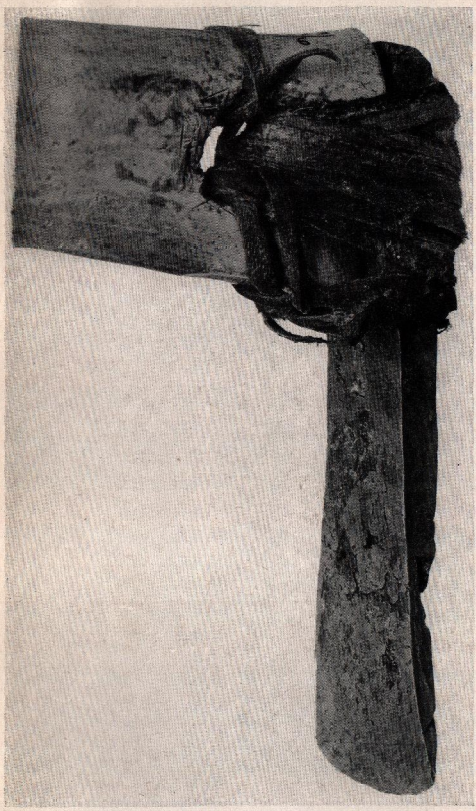
a, Rare type; the blade is mounted in a wooden handle. *b*, Common type; the blade is mounted in an antler handle and the crescentic guard is held in place with a copper rivet. *c*, Common type; the roughly-shaped blade is secured in the handle with a copper rivet.



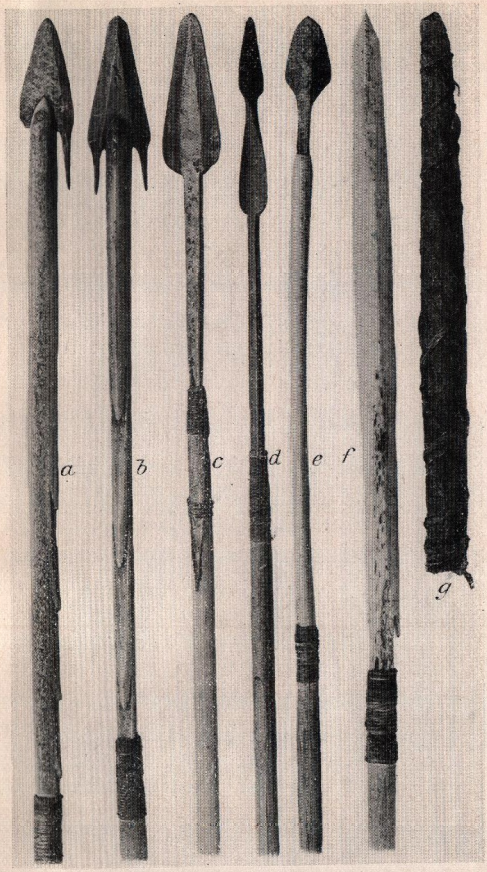
ULUS, OR WOMEN'S KNIVES

a, Made of a solid piece of copper, with a wooden grip. *b*, Copper blade attached to an antler shank with copper rivets, and with an antler grip

COPPER ESKIMO WOMAN USING AN ULU

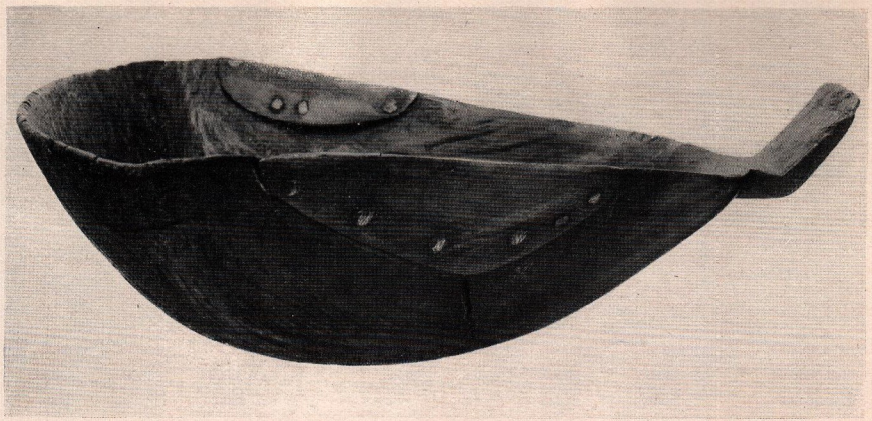


ADZE WITH BLADE OF NATIVE COPPER AND HANDLE OF ANTLER



ARROWHEADS AND SHEATH

a, b, Single and double barbed, copper-tipped rankling heads. *c,* Rankling head made from a single strip of copper *d.* Double-tipped rankling head of copper. *e,* Copper tipped, spade-shaped rankling head. *f,* Single notched form of bone arrowhead. *g,* Rawhide sheath used as cover for *f* to protect its sharp edges when not in use.



DIPPER OF MUSKOX-HORN SHOWING REPAIR WITH COPPER RIVETS

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